CLAIMS

1. A method of enabling user interaction with computer software running in a computer system via:

an interface surface containing information relating to the computer software and including coded data indicative of a text field; and

a sensing device which, when placed in an operative position relative to the interface surface, senses indicating data indicative of the text field and generates movement data indicative of the sensing device's movement relative to the interface surface;

the method including the steps of, in the computer system:

(a) receiving the indicating data from the sensing device;

(b) receiving the movement data from the sensing device;

(c) identifying the text field from the indicating data; and

(d) operating the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the text field.

2. A method according to claim 1, the method further including the steps of, in the computer system, performing text recognition on the handwritten user input, thereby to generate computer text.

3. A method according to claim 1, including the step of sending, in the computer system, data to the computer software indicative of at least the text field.

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5. ~~A method according to claim 1, wherein the text field is associated with a visible text zone defined on the interface surface.~~

6. A method according to claim 2, further including the step of, in the computer system, recognising whether the movement data is indicative of an text editing command drawn onto the surface by the user.

7. A method according to claim 6, wherein, in the event that an editing command is recognised, operating the computer system in accordance with instructions associated with the editing command.

8. A method according to claim 5, wherein the editing command is selected from the following group:

strikeout;

underlining;

cutting;

pasting; and

relocation.

9. A method according to claim 8, wherein the editing command is applied to computer text associated with the text field.

10. A method according to claim 8, wherein the editing command is applied to one or more letters, words or paragraphs.

11. A method according to any one of claims 1 to 10, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to write the handwritten user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to write the handwritten user input onto the surface.

12. A method according to claim 11, further including the step of generating movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

13. A method according to claim 12, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

14. A method according to claim 12 or 13, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

15. A method according to any one of claims 1 to 10, wherein position elements are disposed on the interface surface, the sensing device being configured to periodically sense position elements as it is used to write the handwritten user input onto the surface, the method including the step of generating the movement data in the form of a locus of the sensing device in relation to the surface by ascertaining relative displacement of the sensing device over time with respect to at least one of the position elements.

16. A method according to claim 15, wherein the position elements are disposed on the surface as a regular array of dots, lines or other formations.

17. A method according to claim 15, wherein the position elements are disposed on the surface stochastically.

18. A method according to any one of claims 1 to 10, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to write the handwritten user input thereon.

19. A method according to claim 18, ~~wherein the motion~~ sensing elements include one or more rollerballs mounted for rotation within a constraining housing disposed substantially within the sensing device.

20. A method according to claim 19, wherein components of rotation of the rollerball, due to movement of the sensing device when writing the handwritten user input onto the surface, are periodically measured.

21. A method according to claim 20, wherein the components of rotation of the rollerball due to movement of the sensing device by the user when writing the handwritten user input onto the surface are measured by means of:

rollers disposed within the constraining housing for rotation, the rollers being configured to be driven by contact with the rotating rollerball; or

optical sensing of rotation of the rollerball with respect to the constraining housing.

22. A method according to any one of claims 1 to 10, wherein the coded data includes at least one tag, each tag being indicative of the signature field.

23. A method according to claim 22, wherein the tags are also indicative of points within the signature field.

24. A method according to claim 23, wherein each of the tags includes:

first identity data defining a relative position of that tag; and

~~second identity data identifying the signature field.~~

25. A ~~method according to claim 24, wherein the relative position is defined~~ in relation to the signature field.

26. A method according to claim 24, wherein the relative position is defined in relation to a plurality of the other tags.

27. A method according to claim 24, wherein the relative position is defined in relation to the interface surface.

28. A method according to claim 24, wherein the first identity data identifies stored information defining the relative position, the stored information not being stored on the interface surface.

29. A method according to claim 28, wherein the first identity data and the second identity data together identify stored information defining the relative position.

~~30.~~ A system for enabling user interaction with computer software running in a computer system via:

an interface surface containing information relating to the computer software and including coded data indicative of a text field; and

a sensing device which, when placed in an operative position relative to the interface surface, senses indicating data indicative of the text field and generates movement data indicative of the sensing device's movement relative to the interface surface;

the computer system being configured to:

(a) receive the indicating data from the sensing device;

(b) receive the movement data from the sensing device;

(c) identify the text field from the indicating data; and

(d) operate the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the text field.

31. A system according to claim 30, wherein the computer system is configured to perform text recognition on the handwritten user input, thereby to generate computer text.

32. A system according to claim 30, wherein the computer system is configured to send data to the computer software indicative of at least the text field.

33. A system according to claim 31, further including the step of, in the computer system, recognising whether the movement data is indicative of an editing command drawn onto the surface by the user.

34. A system according to claim 33, wherein, in the event that an editing command is recognised, operating the computer software in accordance with instructions associated with the editing command.

35. A system according to claim 33, wherein the editing command is selected from the following group in relation to text:

strikeout;

underlining;

cutting;

pasting; and

relocation.

36. A system according to claim 35, wherein the editing command is applied after

the conversion into computer text.

37. A system according to any one of claims 30 to 36, wherein the text field is associated with a visible text zone defined on the interface surface.

38. A system according to any one of claims 30 to 36, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to write the handwritten user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to write the handwritten user input onto the surface.

39. A system according to claim 38, the system being configured to generate movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

40. A system according to claim 39, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

41. A system according to claim 39 or 40, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

42. A system according to any one of claims 30 to 36, wherein position elements are disposed on the interface surface, the sensing device being configured to periodically sense position elements as it is used to write the handwritten user input onto the surface, the system being configured to generate the movement data in the form of a locus of the sensing device in relation to the surface by ascertaining relative displacement of the sensing device over time with respect to at least one of the position elements.

43. A system according to claim 31, wherein the position elements are disposed on the surface as a regular array of dots, lines or other formations.

44. A system according to claim 31, wherein the position elements are disposed on the surface stochastically.

45. A system according to any one of claims 30 to 36, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to write the handwritten user input thereon.

46. A system according to claim 35, wherein the motion sensing elements include one or more rollerballs mounted for rotation within a constraining housing disposed substantially within the sensing device.

47. A system according to claim 26, wherein components of rotation of the rollerball, due to movement of the sensing device when writing the handwritten user input onto the surface, are periodically measured.

48. A system according to claim 37, wherein the components of rotation of the rollerball due to movement of the sensing device by the user when writing the handwritten user input onto the surface are measured by means of:

rollers disposed within the constraining housing for rotation, the rollers being configured to be driven by contact with the rotating rollerball; or

optical sensing of rotation of the rollerball with respect to the constraining housing.

49. A system according to any one of claims 24 to 26, wherein the coded data includes at least one tag, each tag being indicative of the signature field.

50. A system according to claim 49, wherein the tags are also indicative of points within the signature field.

51. A system according to claim 50, wherein each of the tags includes:

first identity data defining a relative position of that tag; and

second identity data identifying the signature field.

52. A system according to claim 51, wherein the relative position is defined in relation to the signature field.

53. A system according to claim 51, wherein the relative position is defined in relation to a plurality of the other tags.

54. A system according to claim 51, wherein the relative position is defined in relation to the interface surface.

55. A system according to claim 51, wherein the first identity data identifies stored information defining the relative position, the stored information not being stored on the interface surface.

56. A system according to claim 55, wherein the first identity data and the second identity data together identify stored information defining the relative position.

57. A system for enabling user interaction with computer software running in a

computer system, the system including:

an interface surface containing information relating to the computer software and including coded data indicative of a text field relating to the computer software;

the system being configured to, in the computer system:

(a) receive indicating data from a sensing device, the indicating data being indicative of the text field, wherein the sensing device, when placed in an operative position relative to the interface surface, senses the indicating data and generates movement data indicative of the sensing device's movement relative to the interface surface;

(b) receive the movement data from the sensing device;

(c) identify the text field on the basis of the indicating data; and

(d) operate the computer software at least partly in reliance on the movement data, and in accordance with instructions associated with the text field.

58. A system according to claim 57, the computer system being configured to perform text recognition on the handwritten user input, thereby to generate computer text.

59. A system according to claim 57, the computer system being configured to send data to the computer software indicative of at least the text field.

60. A system according to claim 57, the computer system being configured to recognise whether the movement data is indicative of an text editing command drawn onto the surface by the user.

61. A system according to claim 60, wherein, in the event that an editing command is recognised, operating the computer system in accordance with instructions associated with the editing command.

62. A method according to claim 60, wherein the editing command is selected from the following group:

strikeout;

underlining;

cutting;

pasting; and

relocation.

63. A method according to claim 62, wherein the editing command is applied to computer text associated with the text field.

64. A method according to claim 63, wherein the editing command is applied to one or more letters, words or paragraphs.

65. A system according to any one of claims 30 to 36, wherein the computer system is configured to send data to the computer software indicative of at least the text field.

66. A system according to any one of claims 30 to 36, wherein the text field is associated with a visible text zone defined on the interface surface.

67. A system according to any one of claims 30 to 36, wherein the sensing device includes at least one acceleration measuring device for measuring acceleration of the sensing device as it is used to write the handwritten user input onto the surface, the movement data being generated by periodically sampling the acceleration of the sensing device as it is used to write the handwritten user input onto the surface.

68. ~~A system according to claim 77, the system being configured to generate~~ movement data in the form of a locus of the sensing device in relation to the surface, the locus being determined by ascertaining relative displacement of the sensing device.

69. A system according to claim 68, wherein the relative displacement is obtained by doubly integrating the acceleration with respect to time.

70. A system according to claim 68 or 69, wherein the acceleration measuring device includes one or more accelerometers configured to measure at least two orthogonal components of acceleration.

71. A system according to any one of claims 30 to 36, wherein position elements are disposed on the interface surface, the sensing device being configured to periodically sense position elements as it is used to write the handwritten user input onto the surface, the system being configured to generate the movement data in the form of a locus of the sensing device in relation to the surface by ascertaining relative displacement of the sensing device over time with respect to at least one of the position elements.

72. A system according to claim 71, wherein the position elements are disposed on the surface as a regular array of dots, lines or other formations.

73. A system according to any one of claims 30 to 36, wherein the movement data is generated by ascertaining relative movement of one or more motion sensing elements rotatably mounted to the sensing device for contact with the surface while the sensing device is used to write the handwritten user input thereon.

74. A system according to any one of claims 30 to 36, wherein the coded data includes at least ~~one tag, each tag~~ being indicative of the signature field.

75. A system according to claim 74, ~~wherein the~~ tags are also indicative of points within the signature field.

76. A system according to claim 75, wherein each of the tags includes:

first identity data defining a relative position of that tag; and

second identity data identifying signature field.

77. A system according to claim 76, wherein the relative position is defined in relation to the signature field.

78. A system according to claim 76, wherein the relative position is defined in relation to a plurality of the other tags.

79. A system according to claim 76, wherein the relative position is defined in relation ~~to the interface surface~~.

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